

CLAIMS

What is claimed is:

1. A method for correlating routing errors to link failures in a network, the method comprising:

5 detecting a link failure between a first and a second router in a network;
associating a first node address indicated in a first routing table of said first router with a first partition of said network, wherein a next hop of a packet destined for said first node address is said second router;

10 associating a second node address indicated in a second routing table of said second router with a second partition of said network, wherein a next hop of a packet destined for said second node address is said first router; and

correlating an error notification resulting from the failed delivery of a packet with said link failure where a source address of said packet corresponds to said first node address and a destination address of said packet corresponds to said second node address.

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2. A method according to claim 1 wherein any of said steps are performed with respect to a connectionless network.

3. A method according to claim 1 wherein said correlating step comprises
20 correlating a "no route to destination" error.

4. A method according to claim 1 wherein said associating steps comprise constructing a connectivity table.

25 5. A method according to claim 1 and further comprising suppressing said error.

6. A method according to claim 1 wherein any of said steps are performed in a distributed network management system by at least one software agent associated with either of said routers.

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7. A method according to claim 6 and further comprising notifying at least one other agent in said network of said associations of said nodes to said partitions, wherein said other agent is not associated with either of said routers.

5 8. A method for correlating routing errors to link failures in a network, the method comprising:

identifying a path between a first node and a second node in a network;

detecting a link failure in said network;

determining if said link failure lay along said path; and

10 correlating an error notification resulting from the failed delivery of a packet with said link failure where a source address of said packet corresponds to an address of said first node, where a destination address of said packet corresponds to an address of said second node, and where said link failure lay along said path.

15 9. A method according to claim 8 wherein said identifying step comprises identifying either of a most commonly used route and a most heavily used route between said nodes in accordance with a predefined measure of use.

10. A method according to claim 8 wherein any of said steps are performed with
20 respect to a connectionless network.

11. A method according to claim 8 wherein said correlating step comprises correlating a "no route to destination" error.

25 12. A method according to claim 8 and further comprising suppressing said error.

13. A method according to claim 8 wherein any of said steps are performed in a distributed network management system by a software agent associated with either of said routers.

14. A system for correlating routing errors to link failures in a network, the system comprising:

means for detecting a link failure between a first and a second router in a network;

5 means for associating a first node address indicated in a first routing table of said first router with a first partition of said network, wherein a next hop of a packet destined for said first node address is said second router;

means for associating a second node address indicated in a second routing table of said second router with a second partition of said network, wherein a next hop of a packet destined for said second node address is said first router; and

10 means for correlating an error notification resulting from the failed delivery of a packet with said link failure where a source address of said packet corresponds to said first node address and a destination address of said packet corresponds to said second node address.

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15. A system according to claim 14 wherein any of said means are operative with respect to a connectionless network.

16. A system according to claim 14 wherein said means for correlating is operative to correlate a "no route to destination" error.

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17. A system according to claim 14 wherein said means for associating are operative to construct a connectivity table.

25 18. A system according to claim 14 and further comprising means for suppressing said error.

19. A system according to claim 14 wherein any of said means are operative in a distributed network management system comprising at least one software agent associated with either of said routers.

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20. A system according to claim 19 and further comprising means for notifying at least one other agent in said network of said associations of said nodes to said partitions, wherein said other agent is not associated with either of said routers.

5 21. A system for correlating routing errors to link failures in a network, the system comprising:

means for identifying a path between a first node and a second node in a network;

means for detecting a link failure in said network;

10 means for determining if said link failure lay along said path; and

means for correlating an error notification resulting from the failed delivery of a packet with said link failure where a source address of said packet corresponds to an address of said first node, where a destination address of said packet corresponds to an address of said second node, and where said link failure lay along said path.

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22. A system according to claim 21 wherein said means for identifying is operative to identify either of a most commonly used route and a most heavily used route between said nodes in accordance with a predefined measure of use.

20 23. A system according to claim 21 wherein any of said means are operative with respect to a connectionless network.

24. A system according to claim 21 wherein said means for correlating step is operative to correlate a "no route to destination" error.

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25. A system according to claim 21 and further comprising means for suppressing said error.

26. A system according to claim 21 wherein any of said means are operative in a
30 distributed network management system comprising a software agent associated with either of said routers.